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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,506	06/06/2001	Matthew D. Giere	10006598-1	9309

7590 05/03/2002
HEWLETT-PACKARD COMPANY
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EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 05/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/876,506

Applicant(s)

GIERE ET AL.

Examiner

LAM S NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-37 and 39-44 is/are rejected.
- 7) ☐ Claim(s) 38 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-37 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinfield et al. (US 5984464) in view of Courian et al. (US 6286941).

Steinfield et al. discloses a fluid ejecting printhead, comprising:

A substrate having a surface (FIG. 11, element 71)

A columnar group of drop generators (FIG. 14) formed on the surface that are arranged into subgroup (FIG. 14, three drop generators)

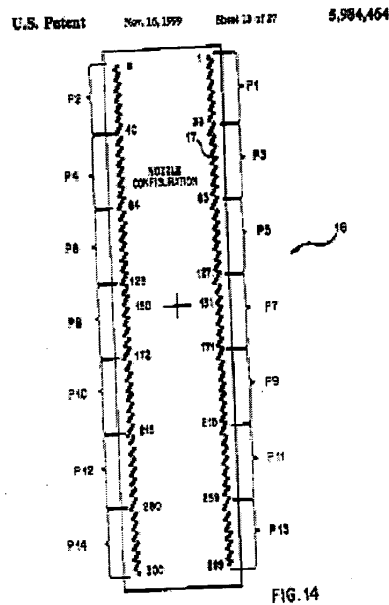
Printhead electronics that provide firing pulses to the drop generators such that no drop generators in the same subgroup are activated sequentially or simultaneously (FIG. 16: the firing sequence, TABLE 1: if the first firing is the nozzle 1, the next firing is the nozzle 7)

Referring to claims 2, 20: the printhead electronics activates the drop generators in the columnar group of drop generators one at a time (column 5, line 24-27)

Referring to claims 3, 21: the columnar group of drop generators is a primitive, and the substrate comprises a plurality of primitive arranged in a column (FIG. 14)

Referring to claims 7, 10, 26, 37: the substrate includes a thin film layer that overlays the fluid feed slot, the thin film layer having openings that couple each of the subgroups to the

fluid feed slot (FIG. 12), and the thin film layer forming heater resistors in each of the drop generators (FIG. 12, element 12)



Referring to claim 13: an apparatus for imparting relative motion between the printhead substrate and a print media (FIG. 25)

Referring to claim 14: a fluid source commonly coupled to all of the drop generators in a column group (FIG. 13, element 52)

Referring to claim 24: a replacement fluid to the fluid source (column 5, line 20-24)

Referring to claims 34 and 43: the barrier/orifice structure includes a polymer layer (column 5, line 40-41)

Referring to claims 35 and 44: the nozzles of each nozzle column have a pitch of 600 nozzles per inch (See Abstract)

Referring to claim 36: a continuous rib portion extending between adjacent first and second ones of the plurality of nozzle columns to fluidically separate the first and the second ones of the nozzle columns (FIG. 13, elements 30 and 18)

Referring to claims 1, 4-6, 8, 9, 11, 15, 16-19, 23, 25, 27, 28, 31, 39, 40:

Steinfeld et al. does not disclose a subgroup including a chamber and at least or two firing resistors being fluidically isolated ink through the fluid feed holes (FIG. 16) from the fluid supply (FIG. 2, element 38) to the fluid feed slot (FIG. 16, element 64).

Courian et al. discloses a subgroup including a chamber (FIG. 15, element 208) and at least or two firing resistors (FIG. 15, element 72) being fluidically isolated ink through the fluid feed holes (FIG. 16) from the fluid supply (FIG. 2, element 38) to the fluid feed slot (FIG. 16, element 64)

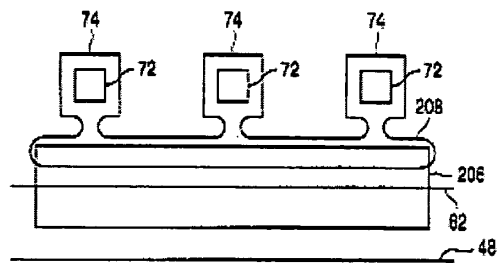


FIG. 15

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to include the fluidical isolation of a subgroup from other subgroup because this isolation reduces cross talk in order to increase printing quality and reduces problems with delamination of dimpling of the nozzle member as taught by Courian et al. (column 2, line 55-65).

Allowable Subject Matter

2. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Steinfeld et al. and Courian et al. do not disclose that the plurality of ink feed openings are arranged in a first group on a first side of the rib portion for feeding nozzles of the first one of the plurality of columns, and a second group on a second side of the rib portion for feeding nozzles of the second one of the plurality of columns. Therefore, the limitation disclosed by this claim is not taught in the prior arts.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BARLOW can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN
May 2, 2002


John Barlow
Supervisory Patent Examiner
Technology Center 2800